

Claims

1. A nonwoven web having durable hydrophilic properties comprising multicomponent fibers and a multiplicity of bond sites bonding said fibers, said  
5 multicomponent fibers including a first component formed by a hydrophobic polypropylene and a second component formed of a blend of a hydrophobic polyolefin and a hydrophilic melt additive, said second component being disposed at the surface of said fibers.

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2. The web according to claim 1, wherein substantially the entire surface of said multicomponent fibers is formed from said second component.

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3. The web according to claim 2, wherein said multicomponent fibers comprise sheath-core bicomponent fibers, and wherein said first component forms the core and said second component forms the sheath.

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4. The web according to claim 3, wherein said second component is a blend of polypropylene with said hydrophilic melt additive.

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5. The web according to claim 3, wherein said second component is a blend of polyethylene with said hydrophilic melt additive.

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6. The web according to claim 5, wherein said web additionally includes sheath-core bicomponent fibers which have a hydrophobic polyethylene sheath component and a hydrophobic polypropylene core component.

7. The web according to claim 1, wherein said multicomponent fibers comprise an air-laid web of staple fibers, a carded web of staple fibers, a wet-laid web of staple fibers, a web of meltblown fibers or a spunbonded web  
5 of substantially continuous filaments.

8. The web according to claim 1, wherein said hydrophilic melt additive comprises at least one member selected from the group consisting of monomer or dimer fatty  
10 acids having a carbon chain length in the range of 6 to 50, hydroxy phenols, polyethylene glycol, polyvinyl alcohol, and polyvinyl formal.

9. A nonwoven web having durable hydrophilic  
15 properties comprising sheath-core bicomponent fibers and a multiplicity of bond sites bonding said fibers, the core component of said bicomponent fibers comprising a hydrophobic polypropylene and the sheath component of said bicomponent fiber comprising a blend of a hydrophobic  
20 polyolefin and a hydrophilic melt additive.

10. The web according to claim 9, wherein said sheath component is formed of a blend of polypropylene and said hydrophilic melt additive.

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11. The web according to claim 9, wherein said sheath component is formed of a blend of polyethylene and said hydrophilic melt additive.

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12. The web according to claim 9, wherein said hydrophilic melt additive is a mixture of hydroxy phenols and polyethylene glycols.

13. The web according to claim 9, wherein said hydrophilic melt additive comprises monomer or dimer fatty acids having a carbon chain length in the range of 6 to 50.

5 14. The web according to claim 9, wherein said sheath component forms at least 50 percent by weight of the fibers.

15 15. The web according to claim 9, wherein said bond sites comprise discrete spaced apart thermal point bonds bonding said bicomponent fibers to one another.

16 16. The web according to claim 9, wherein said bicomponent fibers are staple fibers and said web is a carded thermal bonded web.

17 17. The web according to claim 9, wherein said bicomponent fibers are continuous filaments and said web is a spunbonded web.

20 18. A nonwoven web having durable hydrophilic properties comprising multicomponent fibers, said multicomponent fibers comprising a first component formed by a hydrophobic polypropylene and a second component disposed at the surface of said fibers and formed of a blend of a  
25 hydrophobic polyethylene and a hydrophilic melt additive, said hydrophilic melt additive comprising a mixture of hydroxy phenols and polyethylene glycols.

30 19. A nonwoven web having durable hydrophilic properties comprising multicomponent fibers, said multicomponent fibers comprising a first component formed by a hydrophobic polypropylene and a second component disposed at the surface of said fibers and formed of a blend of a

hydrophobic polyethylene and a hydrophilic melt additive, said hydrophilic melt additive comprising monomer or dimer fatty acids having a carbon chain length in the range of 6 to 50.

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20. A nonwoven web having durable hydrophilic properties and comprising a blend of non-wettable sheath-core bicomponent fibers and wettable sheath-core bicomponent fibers, said non-wettable fibers having a polyethylene  
10 sheath component and a polypropylene core component, and said wettable fibers having a sheath component formed of a blend of polyethylene with a hydrophilic melt additive and a polypropylene core component.

15 21. The web according to claim 20, wherein said non-wettable bicomponent fibers are of a lower denier than said wettable bicomponent fibers.

22. The web according to claim 20, wherein said web  
20 comprises from 10 to 90 weight percent of said non-wettable fibers and from 90 to 10 weight percent of said wettable fibers.

23. A composite fabric comprising a nonwoven web  
25 having durable hydrophilic properties and at least one additional layer, said nonwoven web comprising multicomponent fibers, said multicomponent fibers including a first component formed by a hydrophobic polypropylene and a second component formed of a blend of a hydrophobic  
30 polyolefin and a hydrophilic melt additive, said second component being disposed at the surface of said fibers.

24. A composite fabric according to claim 23, wherein said at least one additional layer includes an additional nonwoven web.

5        25. A composite fabric according to claim 23, wherein said at least one additional layer includes a film.

26. A diaper including a nonwoven web having durable hydrophilic properties according to claim 1.

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27. A feminine hygiene product including a nonwoven web having durable hydrophilic properties according to claim 1.

15        28. An article of apparel comprising a nonwoven web having durable hydrophilic properties according to claim 1.

29. A filter including a filtration medium comprising a nonwoven web having durable hydrophilic properties  
20 according to claim 1.

30. A filter according to claim 29, wherein said nonwoven web forms a membrane support, and including an ultrafiltration membrane carried by said nonwoven web  
25 membrane support.